Supporting Information

Activation of a C-H Bond in Indene by $[(COD)Rh(\mu_2\text{-}OH)]_2$

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Kinetics data for reactions between $[(COD)Rh(\mu_2\text{-}OH)]_2$ (1) and indene

The first order dependence in [Rh] was established by performing a reaction with 15 equivalents of indene as described in the main text. The graph of $\ln([Prod]_{end}\text{-}[Prod])$ (where [Prod] = [**2**]) against time is linear up to approximately 3 half-lives, as shown in Figure S1, which is consistent with a first order dependence on [Rh].

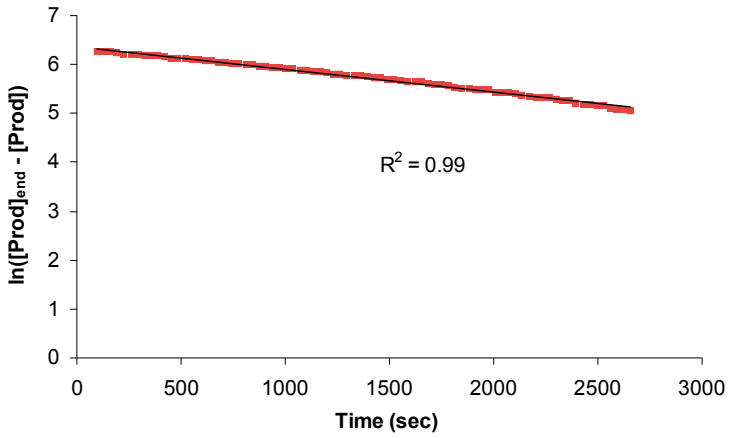

Figure S1: Graph of $\ln([Prod]_{end}\text{-}[Prod])$ against time for reaction between **1** and 15 equivalents of indene at 50 ºC.

The order of the reaction in [indene] was determined by performing a series of reactions at different [indene] concentrations. k_{obs} was determined for each trial and the plot of k_{obs} vs. [indene] is shown in Figure S2. The linear nature of the plot indicates that the reaction is first order in [indene].

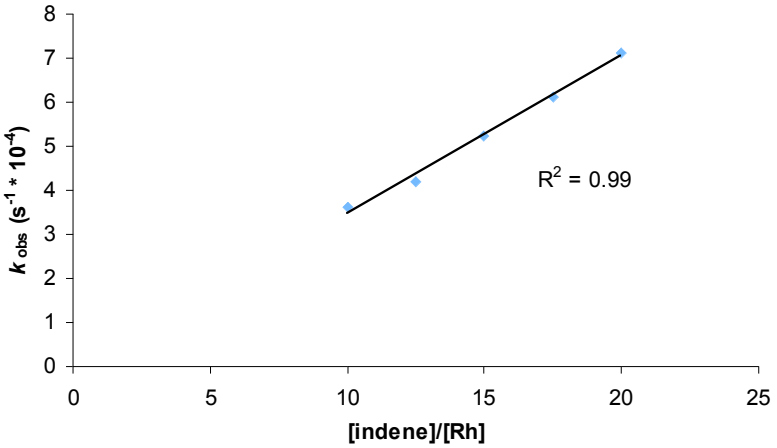

Figure S2: Graph of k_{obs} against [indene]/[Rh] for reaction between **1** and indene at 50 ºC.